

AIR EMISSION PERMIT NO. 10500053-003

IS ISSUED TO

Minnesota Soybean Processors - Brewster

Minnesota Soybean Processors - Brewster
Corner 200th Street & Zeh Avenue
Brewster, Nobles County, MN 56119

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type	Application Date
Total Facility Operating Permit	Feb. 27, 2001
Major Amendment	May 12, 2003
Minor Amendment	12/19/2003

This permit authorizes the Permittee to operate and construct the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Pt 70/NSR Authorization

Issue Date: May 14, 2004

Expiration: 12/19/2007

All Title I Conditions do not expire.

Ann M. Foss
Major Facilities Section Manager
Majors and Remediation Division

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

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NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

FACILITY DESCRIPTION:

From the initial Permit (-001), Minnesota Soybean Processors (Permittee) was authorized to construct and operate a 3,000 ton per day soybean processing plant in the city of Brewster, Nobles County, Minnesota.

The facility at Brewster will receive raw soybeans and process them, extracting crude soybean oil from the beans. By-products of the oil processing are soy meal and hulls, which are sold for animal feed.

Soybeans will be delivered from the local farmers or grain storage facilities by semi-trailer truck. The soybeans are off-loaded and stored in bins having a storage capacity of 2.3 million bushels. From storage the beans are sent to a screening and cleaning area in the preparation building where trash accompanying the beans is removed. From here the beans are routed to the dehulling process. The hull of the bean will be ground. The ground soybean hulls are usually formed into pellets and sold as animal feed. The meat of the bean is cracked into larger chunks, conditioned (heated) and then pressed into flakes. These materials are then sent to the extraction building.

The flakes are washed in the extraction building with a solvent, commercial hexane, to strip the oil from the flakes. The mixture of solids and solvent are separated. The solids, which are still laden with hexane, are sent to a meal desolventizer where they are heated and the solvent is volatilized. The solvent-free solids are then cooled, ground and stored as meal. This meal is sold as animal feed. The liquid removed from the solids consists of hexane, soybean oil, and water and is called the miscella.

The miscella is separated into its components using distillation. The hexane is reused, the water disposed of and the oil, termed "crude oil," is stored. The crude oil will be shipped off-site, to be refined into various products.

The meal and oil products will be shipped from the facility by rail and truck.

Besides receiving, preparation and extraction there will be a weigh station, offices and a lab, a steam generation plant, maintenance, and warehousing. The steam plant will fire, primarily, natural gas.

AMENDMENT -002 DESCRIPTION:

The permit action allows the operation of a major air emissions source, as defined by the Federal New Source Review Prevention of Significant Deterioration (PSD) program. 40 CFR § 52.21. The permit action is not a modification under the PSD program, but does require a state major amendment. Minn. R. 7007.1500. Therefore, the permit has been placed on public notice. This permit amendment authorizes the Permittee to increase the PM and PM₁₀ limits for the two permitted boilers. This increase corrects the existing permit limits to reflect the previously approved limits in the total facility permit application. The fuel for the combustion units will

continue to be natural gas and very low sulfur distillate oil (less than 0.05 percent sulfur). Several additional design modifications are also authorized.

AMENDMENT -003 DESCRIPTION:

The permit action allows the operation of a major air emissions source, as defined by the Federal New Source Review Prevention of Significant Deterioration (PSD) program. 40 CFR § 52.21. The permit action is not a modification under the PSD program, but does require a state minor amendment. Minn. R. 7007.1450. This permit action will authorize the construction and operation of a 30 million gallon per year bio-diesel manufacturing process. The Permittee intends to produce bio-diesel from the vegetable oil feedstock produced at its existing soybean oil extraction facility.

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
OPERATIONAL REQUIREMENTS	hdr
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Fugitive Emissions Control Plan: The Permittee shall develop and comply with a Fugitive Emissions Control Plan. The Plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the Fugitive Emissions Control Plan, then the Permittee may be required by the Commissioner to amend the Control Plan and/or install and operate particulate matter ambient monitors.	Minn. R. 7007.0800, subp. 2
The Permittee shall maintain a designated contact, on-site, for the neighbors to telephone with concerns of any dust. This could be related to dust arising from trucks, either entering or leaving the facility premises as well as from the handling of the outside soybean storage. Upon such a complaint, the facility will investigate the complaint. Valid dust complaints are to be addressed by reasonable and appropriate mitigation measures. The Permittee shall record all complaints, investigation findings, and mitigation measures taken. A continued pattern of dust complaints may trigger a new PM10 modeling analysis.	Minn. R. 7007.0800, subp. 2
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
Rain caps are not allowed on any stacks facility-wide.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(k) to demonstrate source impact analysis for attainment and increment standards.
NOTIFICATION REQUIREMENTS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.	Minn. R. 7019.1000, subp. 3
At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
MONITORING REQUIREMENTS	hdr
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING REQUIREMENTS	hdr
Equipment List: The Permittee shall maintain a written list of all emission units on site that are not insignificant activities. The list shall include the type of equipment; identifying number; date of installation, modification, and/or reconstruction; and identification of any applicable Standards of Performance for New Stationary Sources (40 CFR pt. 60) and/or National Emission Standards for Hazardous Air Pollutants (40 CFR pt. 63).	Minn. R. 7007.0800, subp. 5
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
REPORTING REQUIREMENTS	hdr
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
PERFORMANCE TESTING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
<p>General Performance Test Requirements:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p>	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
Testing Frequency Plan: due 60 days after completion of all permit specified Initial Performance Tests. The plan will address all of the tested units. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	Minn. R. 7017.2020, subp. 1
NESHAP REQUIREMENTS	hdr
The Permittee shall comply with the Maximum Achievable Control Technology (MACT) Standard for Solvent Extraction for Vegetable Oil Production.	40 CFR pt. 63
The Permittee shall not "construct" or "reconstruct" a major source of hazardous air pollutants as defined in 40 CFR section 63.2, without first obtaining a preconstruction permit.	40 CFR Sections 63.40 to 63.44; Minn. R. 7007.3010

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 001 Solvent Extraction (n-Hexane) Losses

What to do	Why to do it
The units in GP 001 are subject to requirements set under the preconstruction program required by 40 CFR pt. 63, Subpart B. As such, the units are also subject to any applicable requirements in 40 CFR pt. 63, Subpart A, General Conditions.	40 CFR Section 63.43
EMISSION LIMITS	hdr
Compliance Ratio: less than or equal to 1.00. The Compliance Ratio = (fhap * actual solvent loss)/(0.64* allowable solvent loss) where, fhap = the weighted average HAP content of solvent purchased during the previous 12 operating months (volume fraction); 0.64 = average volume fraction of HAP in solvent (dimensionless); Actual solvent loss = quantity of actual solvent loss during previous 12 operating months (gallons); Allowable solvent loss = quantity of soybeans processed during the previous 12 operating months (tons) multiplied by 0.2 (gallons/ton)	40 CFR Section 63.2840
GENERAL REQUIREMENTS	hdr
Calculations - Compliance Ratio: By the end of each calendar month following an operating month, calculate the compliance ratio for the previous 12 operating months. This requirement does not apply during the initial startup period (i.e., the first 6 calendar months following initial startup). The first compliance ratio will be determined following the first 12 operating months after initial startup (or the 19th operating month after initial plant startup). An operating month is any calendar month with at least one normal operating period. It does not include the initial startup period or malfunction period. A normal operating period is defined in the proposed 40 CFR 63.2872.	40 CFR Section 63.2840
By the end of each calendar month following an operating month, calculate the actual extraction solvent loss during the previous operating month. The monthly actual extraction solvent loss is to be determined as follows: Actual Solvent Loss = SOLVb - SOLVe + SOLVr +/- SOLVa where, SOLVb = gallons of solvent in the inventory at the beginning of the normal operating month. SOLVe = gallons of solvent in the inventory at the end of the normal operating month. SOLVr = gallons of solvent received between the beginning and ending inventory dates of the normal operating month. This includes purchased hexane and hexane recovered from imported oil that is added to the extraction plant inventory. SOLVa = gallons of solvent added or removed from the extraction solvent inventory during the normal operating month. For SSM Solvent loss events, the excluded solvent loss must be documented for the event and an estimated associated solvent loss must be provided.	40 CFR Section 63.2853
Calculations - 12-month Rolling Sum: Calculate the 12-month rolling sum actual solvent loss by summing the 12 most recent actual monthly solvent losses.	40 CFR Section 63.2853
Calculations - Monthly Weighted Average HAP Content: By the end of each calendar month following an operating month, calculate weighted average HAP content (volume fraction). The monthly weighted average HAP content is to be determined using the following equation: Monthly Weighted Average HAP Content = $\frac{\sum_{i=1}^n (\text{Received}_i * \text{Content}_i)}{\text{Total Received of Extraction Solvent (volume fraction)}}$ where, Received _i = gallons of extraction solvent received in delivery i; Content _i = volume fraction of HAP in extraction solvent delivery i; n = number of extraction solvent deliveries since the end of the previous operating month. Total received = total gallons of extraction solvent received since the end of the previous operating month.	40 CFR Section 63.2854

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

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<p>Calculations - 12-month Weighted Average of HAP Content of Solvent Received:</p> $\text{12-Month Weighted Average of HAP Content in Solvent Received (volume fraction)} = \frac{\sum_{i=1}^{12} (\text{Received}_i * \text{Content}_i)}{\text{Total Received}}$	40 CFR Section 63.2854
<p>Calculations - Oilseed Quantity Processed: By the end of each calendar month following an operating month, calculate the monthly quantity of each oilseed processed by using the following equation:</p> <p>Monthly Quantity of Oilseed Processed = The sum of (SEEDb - SEEDe + SEEDr +/- SEEDa)</p> <p>where, SEEDb = tons of soybeans in the inventory at the beginning of the normal operating month; SEEDe = tons of soybeans in the inventory at the end of the normal operating month; SEEDr = tons of soybeans received during the normal operating month; SEEDa = tons of soybeans added or removed from the oilseed inventory during the normal operating month.</p>	40 CFR Section 63.2855
<p>Calculations - 12-month Rolling Sum: Calculate the 12-month rolling sum of the oilseed quantity processed by summing the monthly oilseed quantity processed for the previous 12 operating months.</p>	40 CFR Section 63.2855
<p>Plan for Demonstrating Compliance: Develop and implement a written Plan for Demonstrating Compliance. This Plan will include:</p> <ol style="list-style-type: none"> 1) a detailed description of the procedures that will be followed to minimize solvent loss, at all times, including normal, startup/shutdown/malfunction (SSM), and non-operating conditions; and, 2) a detailed description of the method of measurement, measurement frequency, calculations, and quality assurance/quality control plan; recordkeeping; and reporting procedures that will be followed to determine source compliance. 	40 CFR Section 63.2862(b)
<p>Startup, Shutdown, and Malfunction Plan: Develop and implement a written Startup, Shutdown, and Malfunction (SSM) plan. At a minimum, this plan is to include:</p> <ol style="list-style-type: none"> 1) a detailed procedure for operating and maintaining the facility to minimize emissions during any SSM event, periods of non-operation associated with a SSM event, and periods of initial startup operation; and, 2) a specified program of corrective action for malfunctioning process and air pollution control equipment; and, 3) specified procedures for estimating solvent loss during each such SSM event. 	40 CFR Section 63.2862(b)
<p>RECORDKEEPING REQUIREMENTS</p>	hdr
<p>By the end of each calendar month following an operating month, record the compliance ratio for each 12 month operating period.</p>	40 CFR Section 63.2862(d)
<p>Upon delivery, record the volume fraction of each HAP comprising more than 1 percent by volume of the solvent in each delivery of solvent, including solvent recovered from off-site oil. For purchased solvent, a Certificate of Analysis provided by the solvent may be used to determine the average HAP content of solvent received. For recovered solvent from vegetable oil purchased from off-site locations, reasonable and sound methods for determining the HAP content shall be used.</p>	40 CFR Section 63.2862(c)
<p>Recording - Solvents: By the end of each calendar month following an operating month, record the following information for the previous operating month. These records shall include the sum of all hexane solvents. At a minimum, these records are to include:</p> <ol style="list-style-type: none"> 1) beginning and end dates defining the operating month; 2) extraction solvent inventories (gallons) at the beginning and end of the operating month; 3) quantity of all extraction solvent (gallons) received, purchased, and off-site recovered, during the operating month; 4) documentation of the reason for and quantity estimation of all extraction solvent inventory adjustments, additions or subtractions; 5) total solvent loss during the operating month; and, 6) 12-month rolling sum of the extraction solvent lost by the process (gallons). 	40 CFR Section 63.2862(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Minnesota Soybean Processors - Brewster

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Recording - Average HAP Content: By the end of each calendar month following an operating month, record the following information for the average HAP content in the extraction solvent, for the previous operating month: 1) quantity of extraction solvent purchased and delivered during the operating month; 2) concentration of each HAP exceeding 1 percent by volume in each delivery of purchased solvent; 3) average HAP content of extraction solvent received during the operating month; and, 4) weighted average HAP content of extraction solvent received during the previous 12 operating months. (This is not required during the initial startup period.)	40 CFR Section 63.2862(c)
Recording - Processed Soybean Weight: Record the tons of soybeans processed for the operating month. At a minimum, these records are to include: 1) beginning and end dates defining the operating month; 2) inventory of each oilseed (tons) at the beginning and end of the operating month; 3) quantity of each oilseed received at the process (tons) during the operating month; 4) documentation as to reason for adjustment and estimation of the quantity of the adjustment for all oilseed inventory adjustments (additions or subtractions); 5) quantity of each oilseed processed (tons) during the operating month; and, 6) 12-month rolling sum of each oilseed processed (tons). (This is not required during the initial startup period.)	40 CFR Section 63.2862(c)
Record any process modifications resulting in changes to the solvent working capacity.	40 CFR Section 63.2853(a)
REPORTING REQUIREMENTS	hdr
Submit notifications before, during, and after construction according to the schedule listed in 40 CFR Section 63.9, but not sooner than the promulgation date of 40 CFR pt. 63, Subpart GGGG. The notifications are subject to the exceptions noted in 40 CFR Section 63.2860(b)(1). The application for approval of construction must include a brief description of the source including the types of listed oilseed processed, nominal operating capacity, and type of desolventizer used. The notification of actual startup shall state whether the Permittee has elected to operate under an initial startup period subject to 40 CFR Section 63.2850(c)(2) and provide an estimate and justification for the anticipated duration of the initial startup period.	40 CFR Section 63.2860
Notification of Deviation Report. A deviation notification report must be submitted, for each operating month, in which the compliance ratio exceeds 1.00. The report is to be submitted by the end of the month following the calendar month in which the deviation occurred. This report is to include the compliance ratio comprising the deviation.	40 CFR Section 63.2861(b)
Periodic SSM Report: By the end of the calendar month, submit a periodic SSM report for the previous month during which the facility has been operated under an initial startup period or a malfunction period. This SSM report is to include an estimate of the solvent loss during the initial startup or malfunction period with supporting documentation.	40 CFR Section 63.2861(c)
Immediate Startup, Shutdown, and Malfunction Reports: Within 2 working days after commencing actions inconsistent with the SSM plan, submit an Immediate Startup, Shutdown, and Malfunction Report consisting of a telephone call or facsimile transmission followed by a letter within 7 working days of the event. This SSM report is to include an estimate of the solvent loss during the SSM event with supporting documentation.	40 CFR Section 63.2861(d)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 002 Fabric Filter Equipment

What to do	Why to do it
OPERATING REQUIREMENTS (All requirements apply to each control equipment unit.)	hdr
The Permittee shall operate and maintain the control equipment any time that the process equipment that it controls is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Visible Emissions/Pressure Drop Monitoring: Once each day of operation of any GP 002 fabric filter, the Permittee shall check the outlet of each operating fabric filter during daylight hours for any visible emissions (VEs). If inclement weather prohibits a VE check, the Permittee shall observe and record the pressure drop across each operating fabric filter.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.0800, subp. 4
Install and operate a pressure differential monitoring gauge for determining the pressure drop across the baghouse. The pressure drop shall not exceed 6.0 inches of water column nor be less than 1.0 inch of water column.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.0800, subp. 4
The Permittee shall take corrective actions, as soon as possible, as based on the operation and maintenance plan to eliminate any visible emissions and/or any pressure drops outside the permitted range specified under this subject item, from any fabric filters.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.0800, subp. 2
Operate and maintain each control equipment such that it achieves a removal efficiency of each fabric filter for total PM: greater than or equal to 99.0 percent control efficiency.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Operate and maintain each control equipment such that it achieves a removal efficiency of each fabric filter for PM10: greater than or equal to 99.0 percent control efficiency.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.3000
Inspect each of the fabric filters quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each of the fabric filters quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
RECORDING REQUIREMENTS	hdr
Recordkeeping of daily monitoring: the Permittee shall keep a daily record, that contains, at a minimum, the following information for each fabric filter unit: 1) Printed name of observer; 2) Signature of observer; 3) Date and time of observation; 4) Are there any visible emissions observed from the fabric filters? ("yes" or "no") 5) Stack/Vent ID number for each "yes"; 6) Description of investigation and corrective actions completed for each "yes"; 7) Weather conditions (temperature, cloud cover, wind, precipitation). or 1) Pressure drop.	Minn. R. 7007.0800, subp. 5
Recordkeeping of corrective actions: The Permittee shall record the corrective actions taken, as soon as possible, as based on the operation and maintenance plan to eliminate any visible emissions and/or any pressure drops outside the permitted range specified under this subject item, from any fabric filters. The Permittee shall keep a record, on-site, of the corrective actions taken.	Minn. R. 7007.0800, subp. 5
Monitor and record pressure drop, for each fabric filter, once every seven days of operation.	Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 003 VOC Losses

What to do		Why to do it
OPERATING REQUIREMENTS		hdr
(All requirements apply to the sum of all emission units.)		
Volatile Organic Compounds: less than or equal to 619 tons/year using 12-month Rolling Sum for VOC solvent loss (after first eighteen months of operation).		Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
During the first eighteen months of operation, the total sum VOC solvent loss shall be less than the following values as of any given month:		Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Month	Sum VOC Loss (tons)	Month Sum VOC Loss (tons)
1	387	13 1,005
2	646	14 928
3	688	15 851
4	732	16 773
5	776	17 696
6	820	18 619
7	864	
8	908	
9	951	
10	995	
11	1,039	
12	1,083	
13		
RECORDKEEPING		hdr
By the end of each calendar month following an operating month, calculate the quantity of actual VOC solvent loss for the previous 12 months by using the monthly and 12 month solvent loss methods in GP 001.		Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 004 Hull Grind; Ground Hull Bin; Pellet Tank; Blending Tank; Clay/Earth Bleach

What to do	Why to do it
EMISSION LIMITS (All limits apply individually to each emission unit.)	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 004.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack vent in GP 004.	Title Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup to measure PM10 for both SV 005 and SV 006 within GP 004. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 005 Cyclone Units

What to do	Why to do it
EMISSION LIMITS	hdr
(All limits apply individually to each emission unit.)	
Total Particulate Matter: less than or equal to 0.026 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 005.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of Minn. R. 7011.0715, subp. 1A
Particulate Matter < 10 micron: less than or equal to 0.013 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack in GP 005.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Cyclones for each individual stack shall be operated at all times whenever the emission unit vented to that stack is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Install and maintain a monitoring device in each cyclone that will continuously monitor for plugging of the cyclone. The monitoring devices will be connected to audible and visible alarms to indicate plugging or failure of the probe.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 14
The monitoring devices and alarm system shall be operated whenever the corresponding cyclone is operating.	Minn. R. 7007.0800, subps. 4 & 5
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup to measure PM10 for each stack vent (SV 004, SV 007, SV 010, SV 011, SV 013, SV 014, SV 015, SV 016, SV 022) within Group 5.	Minn. R. 7007.0800, subp. 4
For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 006 Storage Tanks

What to do	Why to do it
Keep readily accessible records showing the dimension of each individual storage vessel and an analysis showing the capacity of each individual storage vessel.	40 CFR Section 60.116b(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 007 Boilers

What to do	Why to do it
EMISSION LIMITS	hdr
(All limits apply to each emission unit.)	
Nitrogen Oxides: less than or equal to 0.050 lbs/million Btu heat input when combusting natural gas, using 3-hour average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Nitrogen Oxides: less than or equal to 0.1250 lbs/million Btu heat input when combusting distillate fuel oil, using 3-hour Average.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Volatile Organic Compounds: less than or equal to 0.00524 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Volatile Organic Compounds: less than or equal to 0.00143 lbs/million Btu heat input when combusting distillate fuel oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Total Particulate Matter: less than or equal to 0.00745 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Total Particulate Matter: less than or equal to 0.0236 lbs/million Btu heat input when combusting distillate fuel oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.00745 lbs/million Btu heat input when combusting natural gas.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.0236 lbs/million Btu heat input when combusting distillate oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Sulfur Dioxide: less than or equal to 0.0507 lbs/million Btu heat input	Title I Condition: Limit to avoid classification as major for SO ₂ under 40 CFR Section 52.21; also meets the requirements of 40 CFR Section 60.42c(d)
Opacity: less than or equal to 20 percent except for one 6-minute period per hour of not more than 27 percent opacity.	40 CFR Section 60.43c(c)
OPERATING REQUIREMENTS	hdr
Fuel Usage: Limited to pipeline natural gas and low sulfur distillate oil. (Maximum sulfur content 0.05% by weight for distillate oil.)	Title I Condition: Limit to avoid classification as major for SO ₂ under 40 CFR Section 52.21
Fuel Usage: less than or equal to 6080000 gallons/year using 12-month Rolling Sum of #2 fuel oil to be consumed by both Boilers #1 (EU 026) and #2 (EU 027), based on a calculated 12-month rolling sum.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j) (for NO _x); Title I Condition: Limit to avoid classification as major under 40 CFR Section 52.21 (for SO ₂)
Except during start-up and shutdown, operate CE 027 at all times that EU 026 is operating and operate CE 028 at all times that EU 027 is operating.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
MONITORING REQUIREMENTS	hdr
The Permittee shall obtain the supplier certifications for each delivery of distillate oil which specify the sulfur content in percent by weight.	Minn. R. 7007.0800, subp. 4
Record the quantity #2 fuel oil consumed for Boilers #1 and #2 (in gallons) on a monthly basis. Keep records on site.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j) (for NO _x); Title I Condition: Limit to avoid classification as major under 40 CFR Section 52.21 (for SO ₂)
SUBMITTAL AND REPORTS	hdr
Fuel supplier certifications shall include: i) the name of the oil supplier; and, ii) a statement from the oil supplier that the oil sulfur content is less than or equal to 0.05 percent by weight for distillate oil.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; also meets the requirements of 40 CFR Section 60.48c(f)
Record and maintain records of the amounts of each fuel combusted during each month.	40 CFR Section 60.48c(g); Feb. 20, 1992 EPA Memo
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup for each individual unit (EU 026 and EU 027), but not to exceed 60 days after achieving the maximum production rate at which the affected facility will be operated to measure opacity. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility."	40 CFR Section 60.45c(a); Minn. R. 7017.2020, subp. 1
Initial Performance Test: due 180 days after Initial Startup for each individual unit (EU 026 and EU 027) to measure NO _x . For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 008 Loadout Units

What to do	Why to do it
EMISSION LIMITS (All limits apply to each emission unit.)	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average for any process emissions from each stack vent in GP 008.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average for any process emissions from each stack vent in GP 008.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 10 percent	Minn. R. 7011.1005, subp. 3(D)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT.	Minn. R. 7011.1005, subp. 3(D)
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed.	Minn. R. 7011.1005, subp. 3(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 009 Methanol Storage Tanks #1 & #2; Sodium Methylate Tank**Associated Items:** TK 007 Methanol Storage Tank #1

TK 008 Methanol Storage Tank #2

TK 009 Sodium Methylate

What to do	Why to do it
The Permittee shall maintain records (on-site) showing the dimensions of each tank and an analysis showing the tank capacity.	40 CFR 60.116b(b); Minn. R. 7011.1520(C)
The Permittee shall notify the MPCA, within 30 days, if the maximum true vapor pressure exceeds 27.6 kPa.	40 CFR 60.116b(d); Minn. R. 7011.1520(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: GP 010 Bio-diesel Reactor Tanks 010 and 011**Associated Items:** TK 010 Bio-diesel Reactor #1

TK 011 Bio-diesel Reactor #2

What to do	Why to do it
The Permittee shall demonstrate compliance with 40 CFR 60.700(c)(4) by using Method 2, 2A, 2C or 2D of Appendix A to 40 CFR part 60, as appropriate, for determination of volumetric flow rate.	40 CFR 60.704(g)
To maintain compliance with the requirements of 40 CFR 60.700, by complying with the flow rate cutoff in 40 CFR 60.700(c)(4), the Permittee shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.011 scm/min and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.	40 CFR 70.705(h)
<p>The Permittee, in seeking to comply with the requirements of 40 CFR 60.700 by complying with the requirements of 40 CFR 60.700(c)(4) shall submit to the MPCA semiannual reports of the following information. The initial report shall be submitted within 6 months after the initial start-up date.</p> <p>(1) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.700(c)(4), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.705(i).</p> <p>(2) These must be reported as soon as possible after the change and no later than 180 days after the change.</p> <p>(3) These reports may be submitted either in conjunction with semiannual reports or as a single separate report.</p>	40 CFR 70.705(l)(4)
<p>(4) A performance test must be completed within the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and Etoc. The performance test is subject to the requirements of 40 CFR 60.8 of the General Provisions.</p> <p>(5) Unless the facility qualifies for an exemption under any of the exemption provisions listed in 40 CFR 60.700(c), except for the total resource effectiveness index greater than 8.0 exemption in 40 CFR 60.700(C)(2), the facility must begin compliance with the requirements set forth in 40 CFR 60.702.</p>	40 CFR 70.705(l)(4) Continued
The Permittee, in seeking to demonstrate compliance with 40 CFR 60.700(c)(4), must submit to the MPCA an initial report including a flow rate measurement using the test methods specified in 40 CFR 60.704.	40 CFR 70.705(o)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 001 Receiving

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 40 CFR 60.302(b)(1) and Minn. R. 7011.1005, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot using 3-hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 0 percent for any process emissions.	40 CFR Section 60.302(b)(2); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 5 percent for fugitive emissions from any grain unloading station	40 CFR Section 60.302(c)(1); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 0 percent for any fugitive emissions from grain handling operations	40 CFR Section 60.302(c)(2); Minn. R. 7011.1005, subp. 2
OPERATING REQUIREMENTS	hdr
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1
Maintain total enclosure around the grain truck for the entire grain receiving by complete closure of all doors on the grain receiving building.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
RECORDING REQUIREMENTS	hdr
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup to measure PM (PM to include organic condensables). For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility."	Title I Condition: BACT Limit as per 40 CFR 52.21(j); 40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after Startup to measure Opacity. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
Initial Performance Test: due 180 days after Initial Startup to measure PM10. For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 002 Grain Elevator Transfer

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/dry standard cubic foot using 1-Hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 40 CFR 60.302(b)(1) and Minn. R. 7011.1005, subp. 2
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 0 percent from any process emissions	40 CFR Section 60.302(b)(2); Minn. R. 7011.1005, subp. 2
Opacity: less than or equal to 0 percent for any fugitive emissions from grain handling operations	40 CFR Section 60.302(c)(2); Minn. R. 7011.1005, subp. 2
OPERATING REQUIREMENTS	hdr
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1
REPORTING REQUIREMENTS	hdr
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup to measure PM (PM to include organic condensibles).	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); 40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject Item "Total Facility."	
Initial Performance Test: due 180 days after Initial Startup to measure Opacity.	40 CFR Section 60.303(b); 40 CFR Section 60.8(a); Minn. R. 7011.1005, subp. 2
For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	
Initial Performance Test: due 180 days after Initial Startup to measure PM10.	Minn. R. 7007.0800, subp. 4
For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 003 Bean Cleaning

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Cyclones for each individual stack shall be operated at all times whenever the emission unit vented to that stack is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Install and maintain a monitoring device in each cyclone that will continuously monitor for plugging of the cyclone. The monitoring devices will be connected to audible and visible alarms to indicate plugging or failure of the probe.	Title I Condition: BACT Limit as per 40 CFR Section 52.21; Minn. R. 7007.0800, subp. 14
The monitoring devices and alarm system shall be operated whenever the corresponding cyclone is operating.	Minn. R. 7007.0800, subps. 4 & 5
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are not subject to wear or plugging, including structural components, housing, ducts, and hoods. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
Inspect each cyclone quarterly, or as required by manufacturing specifications, all components that are subject to wear or plugging. Maintain a written record of the inspection and any action resulting from the inspection.	Minn. R. 7007.0800, subps. 2, 5, and 14
PERFORMANCE TESTS	hdr
Initial Performance Test: due 180 days after Initial Startup to measure PM10 for the stack vent.	Minn. R. 7007.0800, subp. 4
For additional applicable performance test requirements see 'General Performance Test Requirements' in Table A, subject item "Total Facility."	

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 020 Meal Grinding

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 grains/dry standard cubic foot using 1-Hour Average .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Particulate Matter < 10 micron: less than or equal to 0.003 grains/dry standard cubic foot .	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1(B)
OPERATING REQUIREMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation. See GP 002 for Fabric Filter requirements	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 021 Meal Bin

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.005 grains/actual cubic foot using 1-Hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j); also meets the requirements of 7011.1005, subp. 3(D)
Particulate Matter < 10 micron: less than or equal to 0.005 grains/dry standard cubic foot using 3-hour Average	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Opacity: less than or equal to 10 percent	Minn. R. 7011.1005, subp. 3(D)
OPERATING REQUIRMENTS	hdr
Fabric filters for each individual stack shall be operated at all times when the emission unit is in operation.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up commodities spilled on facility property, as required, to minimize emissions to a level required with RACT.	Minn. R. 7011.1005, subp. 1
Maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed. See GP 002 for Fabric Filter requirements.	Minn. R. 7011.1005, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 028 Fire Pump Engine

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million Btu per equipment design).	Minn. R. 7011.2300, subp. 1
OPERATING CONDITIONS	hdr
Operating Hours: less than or equal to 500 hours/year	Title I Condition: Limit to avoid classification as major for SO ₂ under 40 CFR Section 52.21
Fuel Type: No. 2 distillate fuel only, by design.	Minn. R. 7005.0100, subp. 35a
Operation: emergency usage, training, or testing purposes only.	Minn. R. 7007.0800, subp. 2
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping -- Hours of Operation: The Permittee shall maintain documentation on-site for the hours of operation that the unit is to be used for emergency, training, or testing purposes.	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping -- Fuel Type: The Permittee shall keep records of the type of fuel burned in EU 028 when in operation.	Minn. R. 7007.0800, subps. 4 and 5
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 distillate oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: EU 031 Genset (Emergency)

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input (0.29 lbs/million Btu per equipment design).	Minn. R. 7011.2300, subp. 1
OPERATING CONDITIONS	hdr
Fuel Type: No. 2 distillate fuel only, by design.	Minn. R. 7005.0100, subp. 35a
Operation: emergency usage, training, or testing purposes only.	Minn. R. 7007.0800, subp. 2
Alternative Operating Scenario: Other than for limited testing/training purposes, the emergency generator is only allowed to operate for providing power to the compressed air system, the cooling water pumps, and the emergency lighting during the event of a power outage.	Title I Condition: BACT limit as per 40 CFR Section 52.21(j)
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping -- Hours of Operation: The Permittee shall maintain documentation on-site that the unit is to be used for emergency (including training and testing) purposes only that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to hours per year.	Minn. R. 7007.0800, subps. 4 and 5
Recordkeeping -- Fuel Type: The Permittee shall keep records of the type of fuel burned in EU 031 when in operation.	Minn. R. 7007.0800, subps. 4 and 5
Fuel Supplier Certification: Obtain and maintain a fuel supplier certification for each shipment of No. 2 distillate oil, certifying that the sulfur content does not exceed 0.5% by weight.	Minn. R. 7007.0800, subps. 4 and 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: FS 003 Soybean Pile

What to do	Why to do it
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Operation: During soybean piling, the free fall height between conveyance drop point and top of soybean pile shall not exceed 5 feet.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
All paved roads and areas shall be cleaned to minimize the discharge to the atmosphere of fugitive particulate emissions. Such cleaning shall be accomplished in a manner which minimizes the resuspension of particulate matter.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)
Clean up all bean/bean material spilled on roads or access areas, as soon as practicable, using methods that minimize the amount of dust suspended.	Title I Condition: BACT Limit as per 40 CFR Section 52.21(j)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

Subject Item: FS 005 Fugitive Biodiesel Production Emissions

What to do	Why to do it
STANDARDS: GENERAL	hdr
The Permittee shall demonstrate compliance with the requirements of 40 CFR 60.482-1 through 60.482-9 or 40 CFR 60.480(e) for all equipment within 180 day of initial startup.	40 CFR 60.482-1(a)
STANDARDS: PUMP IN LIGHT LIQUID SERVICE	hdr
(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-2(e) and (f).	40 CFR 60.482-2(a)
(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.	
(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR 60.482-2(b)
(2) If there are indications of liquids dripping from the pump seal, a leak is detected.	
(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9.	40 CFR 60.482-2(c)
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	
Any pump that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and (d)(4) through (6) if:	40 CFR 60.482-2(g)
(1) The Permittee demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and	
(2) The Permittee has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected.	
STANDARDS: COMPRESSORS	hdr
Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in 40 CFR 60.482-1(c) and paragraph (h) and (i) of 40 CFR 60.482-3.	40 CFR 60.482-3(a)
Each compressor seal system as required in paragraph 40 CFR 60.482-3(a) shall be:	40 CFR 60.482-3(b)
(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or	
(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system; or	
(3) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.	
The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.	40 CFR 60.482-3(c)
Each barrier fluid system as described in 40 CFR 60.482-3(a) shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.	40 CFR 60.482-3(d)
(1) Each sensor as required in paragraph 40 CFR 60.482-3(d) shall be checked daily or shall be equipped with an audible alarm.	40 CFR 60.482-3(e)
(2) The Permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.	
If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under 40 CFR 60.482-3(e)(2), a leak is detected.	40 CFR 60.482-3(f)
(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9.	40 CFR 60.482-3(g)
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

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Any compressor that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs 40 CFR 60.482-3(a)-(h) if the compressor:	40 CFR 60.482-3(i)
(1) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in 40 CFR 60.485(c); and	
(2) Is tested for compliance with paragraph 40 CFR 60.482-3(i)(1) of this section initially upon designation, annually, and at other times requested by the MPCA.	
STANDARDS: PRESSURE RELIEF DEVICE IN GAS/VAPOR SERVICE	hdr
Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c).	40 CFR 60.482-4(a)
(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9.	40 CFR 60.482-4(b)
(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.482-5(c).	
STANDARDS: VALVES	hdr
Each valve shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7 (b) - (e), except as provided in 60.482-7 (f), (g), and (h).	40 CFR 60.482-7(a)
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR 60.482-7(b)
(1) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.	40 CFR 60.482-7(c)
(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.	
(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9.	40 CFR 60.482-7(d)
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	
First attempts at repair include, but are not limited to, the following best practices where practicable:	40 CFR 60.482-7(e)
(1) Tightening of bonnet bolts;	
(2) Replacement of bonnet bolts;	
(3) Tightening of packing gland nuts;	
(4) Injection of lubricant into lubricated packing.	
Any valve that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve:	40 CFR 60.482-7(f)
(1) Has no external actuating mechanism in contact with the process fluid,	
(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 40 CFR 60.485(c), and	
(3) Is tested for compliance with 40 CFR 60.482-7(f)(2) initially upon designation, annually, and at other times requested by the MPCA.	

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Any valve that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: (1) The Permittee demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with the requirements of 40 CFR 60.482-7(a), and (2) The Permittee adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.	40 CFR 60.482-7(g)
Any valve that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482(a) if: (1) The Permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface. (2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the Permittee designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and (3) The Permittee of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.	40 CFR 60.482-7(h)
STANDARDS: PUMPS AND VALVES IN HEAVY LIQUID SERVICE, PRESSURE RELIEF DEVICES IN LIGHT LIQUID OR HEAVY LIQUID SERVICE, AND CONNECTORS	hdr
If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the Permittee shall follow either one of the following procedures: (1) The Permittee shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d). (2) The Permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak.	40 CFR 60.482-8(a)
If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	40 CFR 60.482-8(b)
(1) When a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. (2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.	40 CFR 60.482-8(c)
First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e).	40 CFR 60.482-8(d)
STANDARDS: DELAY OF REPAIR	hdr
Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.	40 CFR 60.482-9(a)
Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.	40 CFR 60.482-9(b)
Delay of repair for valves will be allowed if: (1) The Permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and (2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10.	40 CFR 60.482-9(c)
Delay of repair for pumps will be allowed if: (1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and (2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.	40 CFR 60.482-9(d)
Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.	40 CFR 60.482-9(e)

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

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TESTING REQUIREMENTS:	hdr
In conducting the performance tests required in 40 CFR 60.8, the Permittee shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b).	40 CFR 60.485(a)
The Permittee shall determine compliance with the standards in 40 CFR 60.482 as follows: (1) Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane of n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.	40 CFR 60.485(b)
The Permittee shall determine compliance with the no detectable emission standards in 40 CFR 60.482-3(i), 40 CFR 60.482-4, and 40 CFR 60.482-7(f) as follows: (1) The requirements of paragraph 40 CFR 60.485(b) shall apply. (2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.	40 CFR 60.485(c)
The Permittee shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: (1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 93 (incorporated by reference -- see 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment. (2) Organic compounds that are considered by the MPCA to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.	40 CFR 60.485(d)
(3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the MPCA disagrees with the judgment, 40 CFR 60.485 (d) (1) and (2) shall be used to resolve the judgment.	40 CFR 60.485(d) CONTINUED
The Permittee shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: (1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 Celsius (1.2 in. H ₂ O at 68 Fahrenheit) Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference -- see 40 CFR 60.17) shall be used to determine the vapor pressures. (2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 Celsius (1.2 in. H ₂ O at 68 Fahrenheit) is equal to or greater than 20 percent by weight. (3) The fluid is a liquid at operating conditions.	40 CFR 60.485(e)
Samples used in conjunction with 40 CFR 60.485 (d) and (e) shall be representative of the process fluid that is contained in or contacts the equipment.	40 CFR 60.485(f)
RECORDKEEPING REQUIREMENTS:	hdr
When each leak is detected as specified in 40 CFR 60.482-2, 40 CFR 60.482-3, 40 CFR 60.482-7, and 40 CFR 60.482-8, the following requirements apply: (1) a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment. (2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months. (3) The identification on equipment except on a valve, may be removed after it has been repaired.	40 CFR 60.486(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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Facility Name: Minnesota Soybean Processors - Brewster

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<p>When each leak is detected as specified in 40 CFR 60.482-2, 40 CFR 60.482-3, 40 CFR 60.482-7, and 40 CFR 60.482-8, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:</p> <p>(1) The instrument and operator identification numbers and the equipment identification number.</p> <p>(2) The date the leak was detected and the dates of each attempt to repair the leak.</p> <p>(3) Repair methods applied in each attempt to repair the leak.</p> <p>(4) "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm.</p> <p>(5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.</p>	40 CFR 60.486(c)
<p>(6) The signature of the Permittee whose decision it was that repair could not be effected without a process shutdown.</p> <p>(7) The expected date of successful repair of the leak if a leak is not repaired within 15 days.</p> <p>(8) Dates of process unit shutdowns that occur while the equipment is unrepaired.</p> <p>(9) The date of successful repair of the leak.</p>	40 CFR 60.486(c) CONTINUED
<p>The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 40 CFR 60.482-9 shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) A list of identification numbers for equipment subject to the requirements of 40 CFR 60.480.</p> <p>(2)(i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-3(i) and 40 CFR 60.482-7(f).</p> <p>(ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-3(i) or 40 CFR 60.482-7(f) shall be signed by the Permittee.</p> <p>(3) A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 60.482-4.</p>	40 CFR 60.486(e)
<p>(4)(i) The dates of each compliance test as required in 40 CFR 60.482-3(i), 40 CFR 60.482-4, and 40 CFR 60.482-7(f).</p> <p>(ii) The background level measured during each compliance test.</p> <p>(iii) The maximum instrument reading measured at the equipment during each compliance test.</p> <p>(5) A list of identification numbers for equipment in vacuum service.</p>	40 CFR 60.486(e) CONTINUED
<p>The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.</p> <p>(2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.</p>	40 CFR 60.486(f)
<p>The following information shall be recorded in a log that is kept in a readily accessible location:</p> <p>(1) Design criterion required in 40 CFR 60.482-3(e)(2) and explanation of the design criterion; and</p> <p>(2) Any changes to this criterion and the reasons for the changes.</p>	40 CFR 60.486(h)

TABLE A: LIMITS AND OTHER REQUIREMENTS

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<p>The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d):</p> <p>(1) An analysis demonstrating the design capacity of the affected facility,</p> <p>(2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and</p> <p>(3) An analysis demonstrating that equipment is not in VOC service.</p>	40 CFR 60.486(i)
Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.	40 CFR 60.486(j)
REPORTING REQUIREMENTS:	hdr
The Permittee shall submit semiannual reports to the MPCA beginning 6 months after the initial startup date.	40 CFR 60.487(a)
<p>The initial semiannual report to the MPCA shall include the following information:</p> <p>(1) Process unit identification.</p> <p>(2) Number of valves subject to the requirements of 40 CFR 60.482-7, excluding those valves designated for no detectable emissions under the provisions of 40 CFR 60.482-7(f).</p> <p>(3) Number of pumps subject to the requirements of 40 CFR 60.482-2.</p> <p>(4) Number of compressors subject to the requirements of 40 CFR 60.482-3, excluding those compressors designated for no detectable emissions under the provisions of 40 CFR 60.482-3(i).</p>	40 CFR 60.487(b)
<p>All semiannual reports to the MPCA shall include the following information, summarized from the information in 40 CFR 60.486:</p> <p>(1) Process unit identification.</p> <p>(2) For each month during the semiannual reporting period,</p> <p>(i) Number of valves for which leaks were detected as described in 40 CFR 60.482-(7)(b),</p> <p>(ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1),</p> <p>(iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b),</p> <p>(iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1),</p>	40 CFR 60.487(c)
<p>(v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f),</p> <p>(vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and</p> <p>(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.</p>	40 CFR 60.487(c) CONTINUED
The Permittee shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of 40 CFR 60.480 except that the Permittee must notify the MPCA of the schedule for the initial performance tests at least 30 days before the initial performance tests.	40 CFR 60.487(e)
The requirements of 40 CFR 60.487(a) through (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of paragraphs (a) through (c) of this section, provided that they comply with the requirements established by the State.	40 CFR 60.487(f)

TABLE B: SUBMITTALS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster
Permit Number: 10500053 - 003

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

What to send	When to send	Portion of Facility Affected
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU001, EU002, GP007
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU001, EU002, GP007
Submittal	due 610 days after Initial Startup Certification of Compliance Status. This notification shall include: 1) name and address of owner; 2) physical address of facility; 3) type of oilseed type processed; 4) each HAP, present in purchased solvent, in concentrations greater than 1 percent by volume, during the initial compliance determination; 5) statement designating either being a major or area source; 6) compliance certification of Plan for Demonstrating Compliance and SSM as complete and available, procedures in Plan for Demonstrating Compliance are being followed, and compliance ratio is less than or equal to 1.00.	GP001
Testing Frequency Plan	due 60 days after Initial Performance Test for both EU 026 and EU 027. The plan shall specify a testing frequency to measure opacity and NOx using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	GP007
Testing Frequency Plan	due 60 days after Initial Performance Test for each Stack Vent (SV 004, SV 007, SV 010, SV 011, SV 013, SV 014, SV 015, SV 016, SV 022) within Group 5. The plan shall specify a testing frequency to measure PM10 using the test data and MPCA guidance for each Group 5 Stack Vent. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	GP005
Testing Frequency Plan	due 60 days after Initial Performance Test for each SV 005 and SV 006 within Group 4. The plan shall specify a testing frequency to measure PM10 using the test data and MPCA guidance for each stack vent. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	GP004
Testing Frequency Plan	due 60 days after Initial Performance Test for the Stack Vent. The plan shall specify a testing frequency to measure PM10 using the test data and MPCA guidance for the Stack Vent. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	EU003
Testing Frequency Plan	due 60 days after Initial Performance Test. The plan shall specify a testing frequency to measure PM, PM10, and Opacity using the test data and MPCA guidance for the stack vent. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	EU002

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

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Facility Name: Minnesota Soybean Processors - Brewster

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Testing Frequency Plan	due 60 days after Initial Performance Test. The plan shall specify a testing frequency to measure PM, PM10, and Opacity using the test data and MPCA guidance for the stack/vent. Future performance tests based on year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required upon written MPCA approval per Minn. R. 7017.2020, subp. 1.	EU001
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TABLE B: RECURRENT SUBMITTALS

05/14/04

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053 - 003

What to send	When to send	Portion of Facility Affected
Quarterly Report	due 30 days after end of each calendar quarter following Quarterly Report. Keep records and submit quarterly reports. Each quarterly report shall be postmarked by the 30th day following the end of the reporting period. The quarterly report shall include both 1) the calendar dates covered in the reporting period, 2) a copy of all certifications of fuel deliveries for fuel oil burned during the quarter, and 3) a statement certifying that the records of fuel supplier certifications submitted represent all of the fuel combusted during the quarter.	GP007
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 12/19/2002. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 31 days after end of each calendar year starting 12/19/2002 (for the previous calendar year). The Certification shall be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility
Compliance Certification	due 365 days after end of each calendar year following Notification of compliance status	GP001

APPENDIX MATERIAL

Facility Name: Minnesota Soybean Processors - Brewster

Permit Number: 10500053-003

INSIGNIFICANT ACTIVITIES

- IA001 Laboratory
Basis: Minn. R. 7007.1300, subp. 3 G
- IA002 Lime Silo (part of process water treatment)
Basis: Minn. R. 7007.1300, subp. 3 D
- IA003 Soda Ash Silo (part of process water treatment)
Basis: Minn. R. 7007.1300, subp. 3D
- IA004 Crude containment #1 – Baby berth
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA005 Crude containment #2 – Crude tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA006 Crude containment #3 – RB storage
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA007 Crude shift tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA008 Phos. Treated oil tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA009 Phos. Treated oil tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA010 RB Shift tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA011 RB Shift tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA012 Rework tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA013 Soapstock tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)
- IA014 Sodium Hydroxide (caustic)

Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA015 Phosphoric acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA016 HCL acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA017 Fatty acid tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA018 Biodiesel shift tank #1
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA019 Biodiesel shift tank #2
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA020 Biodiesel tank #3
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA021 Glycerine tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

IA022 Biodiesel rework tank
Basis: Minn. R. 7007.1300, subp. 3(I)(2)

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 10500053-003

This technical support document is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal regulations and Minn. R. (40 CFR, Section 70.7(a)(5) and Minn. R. 7007.0850, subp.1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 2075)
Minnesota Soybean Processors Contact: Michael Noble 605/627-6122	Corner 200 th & Zeh Avenue Brewster Nobles County, MN 56119

1.2. Description of the facility/overall process

From the initial Permit (-001), Minnesota Soybean Processors (Permittee) was authorized to construct and operate a 3,000 ton per day soybean processing plant in the city of Brewster, Nobles County, Minnesota.

The overall facility can be divided into three main processes. The first process is the soybean extraction. This process converts the soybeans into “crude” oil. The second process is the “crude” oil refining. The third process is the bio-diesel manufacturing process.

First of all, the soybean extraction process is as follows. The facility at Brewster will receive raw soybeans and process them, extracting crude soybean oil from the beans. By-products of the oil processing are soy meal and hulls, which are sold for animal feed.

Soybeans will be delivered from the local farmers or grain storage facilities by semi-trailer truck. The soybeans are off-loaded and stored in bins having a storage capacity of 2.3 million bushels. From storage, the beans are sent to a screening and cleaning area in the preparation building where trash accompanying the beans is removed. From here, the beans are routed to the dehulling process. The hull of the bean will be ground. The ground soybean hulls are usually formed into pellets and sold as animal feed. The meat of the bean is cracked into larger chunks, conditioned (heated) and then pressed into flakes. These materials are then sent to the extraction building.

The flakes are washed in the extraction building with a solvent, commercial hexane, to strip the oil from the flakes. The mixture of solids and solvent are separated. The solids, which are still laden with hexane, are sent to a meal desolventizer where they are heated and the solvent is volatilized. The solvent-free solids are then cooled, ground and stored as meal. This meal is sold as animal feed. The liquid removed from the solids consists of hexane, soybean oil and water and is called the miscella.

The miscella is separated into its components using distillation. The hexane is reused, the water disposed of and the oil, termed “crude oil,” is stored. The crude oil can either be shipped off-site or refined.

Besides receiving, preparation and extraction, there is a weigh station, offices and a lab, a steam generation plant, maintenance, and warehousing. The steam plant contains two boilers. The steam plant will fire, primarily, natural gas.

The second process is the refining process. The refining process removes impurities contained in the crude oil. The refinery process, generally, consists of the following stages: refining, water wash, vacuum drying, bleaching, and deodorization. For example, the bleaching process removes trace amounts of undesirable compounds which affect the stability of the oil. After the refining process, one additional step is needed before the refined oil can be used as a food product. This facility does not perform that step. If the refined oil is to be used as a food product, the facility purchasing the refined oil will complete the last step. The refined oil can either be sold as nearly processed vegetable oil (for human consumption) or sent through the bio-diesel manufacturing process.

In the application (-001) facility description, the application also included EU022/SV025 for the refining process. EU022 is for the bleach clay/diatomaceous earth. EU022 emissions were included in the PSD analysis (including air dispersion modeling). In addition, EU022’s control equipment is subject to a BACT limit.

The initial project (Permit -001) was subject to Federal New Source Review (NSR). The soybean extraction, boilers, and refining process were all included in the initial PSD operating permit (-001). On December 19, 2002, the MPCA issued the air permit (-001). In December 2003, the soybean oil extraction facility began initial operation. As of this time, there has been no construction work on the refinery.

The third process is the bio-diesel manufacturing. This process converts the “refined” oil into a bio-diesel product. The “crude” oil must be “refined” before it can begin the bio-diesel process. Bio-diesel is produced from the reaction of the fatty acids in the “refined” oil with methanol in the presence of a catalyst. The reaction produces mono-alkyl esters (bio-diesels) and glycerol. The current air application (-003) is for the construction of bio-diesel manufacturing process.

Permit Number	Date Issued	Description
-001	12/19/02	PSD permit for extraction and refining
-002	11/10/03	Modify boilers PM/PM10 limits
-003		Addition of bio-diesel manufacturing

1.2. Description of the Permit Action

The Permittee proposes to construct and operate a 30 million gallon per year bio-diesel manufacturing process. The Permittee intends to produce bio-diesel from the vegetable oil feedstock produced at its existing soybean oil extraction facility.

This permit action is a state minor amendment to a Federal PSD/Part 70 permit.

1.3 Description of the Activities Allowed by this Permit Action

Air emissions resulting from the bio-diesel production process include:

Fugitive VOC and HAP emissions from process equipment (i.e., valves, flanges, pump seals, pressure relief valves, and other seals)

Fugitive VOC and HAP emissions from two methanol storage tanks (about 35,000 gallon storage capacity each), and one sodium methylate storage tank (about 30,000 gallon storage capacity)

In addition to the planned equipment listed above, the project will require additional steam from the facility's two existing boilers. Although the project will require additional steam output, no modifications to the existing boilers will be required in order to meet the increased steam demand.

1.4. Facility Emissions:

Table 1. Emissions Associated With the Modification

Pollutant	Potential to Emit from the modification (lb/hr)	Potential to Emit from the modification (TPY)	NSR/ 112(g) Threshold Level (TPY)	NSR/ MACT Review Required (Yes or No)
PM	0.27	1.17	25	No
PM ₁₀	0.27	1.17	15	No
SO ₂	0.58	2.55	40	No

NO _x	1.62	7.09	40	No
VOC	1.70	7.44	40	No
CO	0.93	4.09	100	No
Lead	8.0E-06	3.5E-05	0.6	No
HAPs (methanol)	1.64	7.17		No

* There was no netting performed for this Permit Action.

Table 2. Total Facility Potential to Emit Summary:

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x Tpy	CO tpy	VOC tpy	All HAPs tpy
Total Facility Limited Potential Emissions (before modification) ¹	244.3	135.5	22.4	69.1	65.8	623.9 ²	542.6
Emission increases due to modification	1.17	1.17	2.55	7.09	4.09	7.44	7.17
Total Facility Limited Potential Emissions (after modification) ³	245.5	136.7	25.0	76.2	69.9	631.3	549.8

¹ based on -001 submittal.

² n-Hexane is based on emissions projected to follow the initial start-up period.

³ The plant began operations in Dec. 2003. Hence, there are no available actual emissions.

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	PM, PM10, NO _x , VOC		CO, SO ₂ , Pb
Part 70 Permit Program	PM, PM10, VOC, n-Hexane, total HAP		NO _x , CO, SO ₂ , Pb

2. Regulatory and/or Statutory Basis for the Modification (-002)

New Source Review

The facility is an existing major source under New Source Review regulations. No changes are authorized by this permit.

Part 70 Permit Program

The facility is an existing major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

Due to this modification, there are three additional New Source Performance Standards applicable to the facility's operations. These NSPSs are:

Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (40 CFR § 60 Subp. VV)

Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry Reactor Processes (40 CFR § 60 Subp. RRR)

Standards of Performance for Volatile Organic Liquid Storage Vessels (40 CFR § 60 Subp. Kb).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The modification does not trigger any NESHAPs under 40 CFR § 63.

Minnesota State Rules

This modification is not subject to any Minnesota Standards of Performance.

Table 4. Regulatory Overview of Units Affected by the Modification

EU, GP, or SV	Applicable Regulations	Comments:
FS 005	40 CFR § 60 Subp. VV	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
Tanks 010, 011 (GP010)	40 CFR § 60 Subp. RRR	Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry Reactor Processes
Tanks 007, 008, 009 (GP009)	40 CFR § 60 Subp. Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels

3. Technical Information

Debottlenecking

When a process is limited by production capacity of a process unit, generally, it is a bottleneck. Debottlenecking a unit increases the capacity of the other process units upstream and downstream. EPA requires that debottlenecked emission increases be considered as part of a project's emissions increases.

At issue is whether this permit action debottlenecked any existing units. As for the soybean extraction process, there is no debottlenecking. The process was designed for 3,000 tons of soybeans per day. This design capacity is not being changed. There are no individual units that will be increased to a higher operating capacity in the soybean extraction process. The same is true for the oil refining process. The oil refining process was designed to receive the resulting crude oil from a 3,000 tons per day extraction process. The oil refining capacity is not being changed. There are no individual refining units where capacity will be increased. The same equivalent oil quantity is being produced. Depending on demand, the oil can either be sold as crude, refined or bio-diesel.

The bio-diesel manufacturing process will require additional steam from the existing boilers. Although the bio-diesel process will require additional steam output, no modifications to the existing boilers will be required to meet the increased steam demand. The projected increased steam demand is for 227,000 lbs/day for the bio-diesel production. Under "traditional" debottlenecking policy, the increased steam demand emission is treated as being debottlenecked. Hence, the increased steam demand emission has been included.

Not a NSPS Modification

At issue is whether this permit action is a NSPS "modification." A NSPS modification triggers a state major amendment. Minn. R. 7007.1500. Based on a March 14, 1995 Leads item, installing this new NSPS affected facility is not a Title 1 modification. The facility has the ability to include all the pipeline unrestricted fugitive emission PTE without crossing over the PSD threshold. Hence, the installation of this new NSPS facility is not a state major modification.

Existing VOC Cap

At issue is whether this permit action requires a GP003 Title 1 modification. GP003 is entitled VOC losses. In the initial permit (-001), the VOC losses were subject to a BACT limit. All three requirements found within GP003, however, specifically refer to "VOC solvent loss." The VOC solvent is n-hexane. The VOC loss, from the bio-diesel manufacturing process (-003), is from methanol. The methanol is not a solvent in the soybean extraction plant. Hence, the addition of the VOC methanol does not impact the existing Title 1 VOC loss limit.

NSPS Subpart VV

Glycerol is a by-product of the bio-diesel manufacturing process. 40 CFR 60.489 provides "The following chemicals are produced, as intermediates or final products, by process units covered under this subpart." The list contains glycerol. Hence, the bio-diesel manufacturing process is subject to Subpart VV- Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry. 40 CFR 60.480.

NSPS Subpart RRR

Glycerol is a by-product of the bio-diesel manufacturing process. 40 CFR 60.707 provides “The following chemicals are produced, as intermediates or final products, by process units covered under this subpart.” The list contains glycerol.

As a part of this modification, two separate bio-diesel reactors (Tanks 010, 011) will be constructed. Both reactors will be operated as a continuous steady state process, which will include monitoring systems to control and maintain the temperature and liquid level within each reactor. The airflow from the reactors will be a passive design, and the only airflow from each reactor would be a result of a change in temperature or an increase in the level of liquid within the reactor. While operating under normal steady operating conditions, the temperature and liquid level will remain constant, and the airflow rate from each of these two reactors will be negligible. The airflow from each of the reactors will be less than the vent stream flow exemption of 0.011 standard cubic meters per minute under 40 CFR 60.700(c)(4). Therefore, this modification is only subject to the recordkeeping and reporting requirements in 40 CFR 60.704(g) and 40 CFR 60.705(h), (l)(4), and (o).

Hence, the bio-diesel manufacturing process is subject to portions of Subpart RRR- Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemicals Manufacturing Industry (SOCMI) Reactor Processes. 40 CFR 60.700.

Air Dispersion Modeling

In the initial PSD modeling analysis (-001), NO_x and PM₁₀ were both modeled for increment consumption and ambient standards. For NO_x, the increment consumed was 8.4 g/m³ out of the 25-g/m³ increment standard. For PM₁₀, the increment consumed was 24.0 g/m³ out of the 30 g/m³ increment standard. Hence, the issue is whether this permit application (-003) utilized any more PM₁₀ increment.

In this application (-003), the overall PM₁₀ emissions increase by 1.17 tons/year. These emissions are all due to the increased steam demand from the existing boilers. The existing boilers were included in the initial PSD modeling analysis. The boiler emissions were initially modeled at full utilization (i.e., design capacity) that included the increased steam demand now required for the bio-diesel manufacturing. Hence, the PM₁₀ increases shown in this amendment (-003) were actually included in the initial PSD modeling (-001). There are no “new” PM₁₀ emissions resulting from the bio-diesel manufacturing. Accordingly, additional air dispersion modeling is deemed to not be required in this permit action (-003).

Tanks 4.0

TANKS 4.0 uses methyl alcohol instead of methanol and sodium methylate.

Potential emissions from each of the two methanol storage tanks were calculated assuming that the liquid content of each of the two storage tanks is 100% methyl alcohol (methanol). This

chemical content selection provides the appropriate selection for calculating potential VOC/HAP emissions from the methanol storage tanks.

The predicted liquid contents of the sodium methylate storage tanks will be 25% sodium methylate and 75% methanol. TANKS software does not include sodium methylate in the software database. Therefore, potential emissions from the sodium methylate tanks were calculated assuming that the storage tank content is 100% methanol. Methanol has a higher vapor pressure than sodium methylate, 97 mmHg and 50 mmHg, respectively. Methanol is also listed as a HAP, while sodium methylate is not a listed HAP. As a result, this chemical content selection provides a conservative estimate of the potential VOC/HAP emissions from the sodium methylate tank.

Emission Increases below State Minor Thresholds

Based on the bio-diesel project potential emissions, the total emissions are below the Minnesota minor thresholds. Minn. R. 7007.1450. The project potential emissions summary is attached. Hence, this modification qualifies as a state minor amendment.

Methanol Model Screen

Methanol has a Health Risk Value (HRV) of 10,000 ug/m³. Given the projected methanol increase, from the bio-diesel manufacturing, a conservative screen model was run by the consultant. The model predicts that the methanol emissions will not exceed the HRV.

3.1 Calculations of Potential to Emit

Attachment 2, to this TSD, contains summary of the bio-diesel project emissions as well as the detailed spreadsheets and tanks emission summaries prepared by the MPCA and the Permittee.

3.2 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;

- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere:

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 5. Periodic Monitoring

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
Fugitive Bio-diesel production emissions: FS 005	NSPS Subpart VV		NSPS Subpart VV requires that the various equipment pieces (flanges, valves, etc.) be monitored on a given time basis.

3.3 Insignificant Activities

The bio-diesel manufacturing process has a number of emission units which are classified as insignificant activities. These are listed in Appendix 1 to the permit.

4. Conclusion

Based on the information provided by Minnesota Soybean Processors, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 10500053-003 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Bruce Braaten (permit writer/engineer)
 < > (enforcement)
 Dave Beil (peer reviewer)

Attachments:

1. NSR Circumvention Analysis
2. Facility PTE Summary
3. PTE Summary and Calculation Spreadsheets
4. Boiler emission calculations from PSD (-001) application

Attachment 1: NSR Circumvention Analysis

Issue

Is there New Source Review (NSR) circumvention with the close timing of the initial start-up of the soybean extraction facility operation and the proposed modification to allow for bio-diesel refining?

Background

In February 2001, the Permittee's first consultant's air permit application for the soybean extraction facility was submitted to the MPCA. In that application, there were several emission units included that were specifically for bio-diesel refining. These units were two methyl ester storage tanks and one glycerin storage tank.

When the initial permit was submitted, in 2001, there was legislative discussion of mandating the use of bio-diesel fuel as a blend. The Permittee had intended the soybean processing plant to be able to accommodate bio-diesel refining, if mandated. The Permittee also expressed that facility construction was going to be a two step process. First, the soybean extraction and refining processes were to be built. Secondly, the bio-diesel refining was to be added.

In the spring of 2002, the Minnesota Legislation required nearly all diesel fuel sold in Minnesota to contain at least two percent bio-diesel by 2005.

In August 2002, the Permittee's second consultant's air permit application was submitted. In the August 2002 application facility description (pg. 2-1), the application provides:

"Minnesota Soybean Processors (MnSP) plans to build a 3,000 ton per day soybean processing facility near the city of Brewster, Minnesota, in Nobles County. Eventually this plant may be expanded to 4,200 ton per day. In addition, the facility may eventually install equipment to produce biodiesel. However, no engineering specifications for this process have been produced, nor is capital available for construction." The application continues. "Minnesota Soybean Processors plans to evaluate the possibility of establishing the capability to formulate biodiesel, a replacement for petroleum diesel fuel, from crude oil." The application facility drawing (Figure 6) labeled an area for "bio-diesel."

No bio-diesel emission units were included in the second consultant's permit application.

On December 19, 2002, the MPCA issued the air emission permit.

The Permittee has provided that "MNSP did not decide to proceed with the biodiesel project until the MnSP Board of Directors voted, on August 18, 2003, to go forward with the project. Further, the decision to proceed was contingent on the Brewster area being designated as one of Governor Pawlenty's new JOBZones. This contingency was just achieved yesterday (December 18, 2003) when the Governor announced the new JOBZones, including a zone for the Brewster area. The MnSP Board's decision to proceed was also contingent on sufficient equity capital

being raised through a stock offering to our farmer shareholders. This offering just began on November 15, 2003.”

The submittal date of the bio-diesel refinery air emission permit application is November 2003.

Analysis

Given the close timing of the two projects, this application is being reviewed for consideration of New Source Review circumvention. The basis of the review is the EPA memorandum entitled “Applicability of New Source Review Circumvention Guidance to 3M - Maplewood, Minnesota.”

In this memo, EPA provides the following initial discussion. “Generally in “sham” permitting, a source attempts to expedite construction by securing minor source status through permits containing operational restrictions from which the source intends to free itself shortly after completion of construction and commencement of operation.” MnSP did not initially secure minor source status. MnSP did not take operational limits that it intended to free itself. From the initial 2001 permit application, the NSR Review was an integral component of the application. The completed application included all aspects of a complete PSD analysis. The permit was issued as a PSD major. There was no intent to secure a minor permit status of the initial facility.

The EPA guidance further provides that “Authorities should scrutinize applications that relate to the same process or units that the source files either before initial operation of the unit or after less than a year of **operation**.” The time between the initial facility operation and bio-diesel refinery project application was concurrent.

Moreover, the EPA guidance provides the five following specific criteria:

1. Filing of more than one minor source or minor modification application associated with emissions increases at a single plant within a short time period.

There was no initial filing of minor source permits. There was not a series of minor permits containing operational limits. The initial application went through a complete PSD review. This addition of the bio-diesel refining does not free the facility from any operational restrictions.

2. Application of funding.

The initial project was to build a plant that would extract soybeans into crude oil and to refine the oil. There are a number of such facilities located around the state. Given the existence of other such plants, it is difficult to argue that the initial project would not have been funded or it would not have been economically viable if operated on an extended basis (at least a year) without the other projects (i.e., the bio-diesel refining).

Again, the Permittee has provided that the “MnSP Board’s decision to proceed was also contingent on sufficient equity capital being raised through a stock offering to our farmer shareholders. This offering just began on November 15, 2003.”

3. Reports of consumer demand and projected production levels.

The intent of the bio-diesel project is to meet the Minnesota Legislation requiring nearly all diesel fuel sold in Minnesota to contain, at least, two percent bio-diesel. This is a new fuel mandate.

Moreover, the overall bean throughput is not being increased as part of the modification.

4. Statements of authorized representatives of the source regarding plans for operation.

The Permittee has also been very open about the intention of being able to process bio-diesel fuel at the plant. The Permittee also went a complete PSD review of the initial soybean extraction and refining processing.

5. EPA’s own analysis of the economic realities of the projects considered together.

n/a

Conclusion

In conclusion, the two projects are not considered to have attempted to have circumvented New Source Review. Arguably, the timing of the two projects is close. However, there were no attempts to secure minor status through operational limits. There are no attempts to free the facility from operational limits placed as a result of securing minor status. Hence, the two projects can not be viewed treated as NSR circumvention.

Attachment 2: Facility PTE Summary

Total Facility Potential to Emit Summary after -003:

Emission Unit Description	EU #	SV #	PM (tpy)	PM ₁₀ (tpy)	SO ₂ (tpy)	NO _x (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Single HAP (tpy)	All HAPs (tpy)
Receiving	001	001	3.94	3.94							0.00
Transfer	002	002	2.82	2.82							0.00
Bean cleaning	003	003	0.73	0.73							0.00
Bean heating	004	004	57.26	28.63							0.00
Jet drying	005										
Hulloosenators	006										
Cracking	007										
Secondary aspirator	008										
Hot Dehulling											
Hull grinding	009	005	2.25	2.25							0.00
Ground Hull Bins	010	006	0.13	0.13							0.00
Pellet cooler	011	007	6.83	3.42							0.00
Flakers	012	011	19.52	9.76							0.00
Mineral Oil System	013	020					54.02			47.41	47.41
Pellet storage tank	014	008	0.13	0.13							0.00
Blending	015	009	1.22	1.22							0.00
Dryer deck # 1	016	013									
Dryer deck # 2	017	014									
Cooling deck # 1	018	015									
Cooling deck # 2	019	016									
Dryer deck # 3 (future)	029	031									
Cooler deck # 3 (future)	030	032									
DT/DC Decks			105.42	52.71			486.16			426.65	426.65
Meal grinding	020	012	1.80	1.80							0.00
Meal bin	021	017	1.23	1.23							0.00
Bleach clay/diatomaceous earth	022	025	0.14	0.14							0.00
Meal/hull load-out (Truck #1)	024	018	4.80	4.80							0.00
Meal/hull load-out (Truck # 2/rail)	025	019	4.80	4.80							0.00
Boilers		021									

First Boiler	026		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01
Second Boiler	027		6.37	6.37	11.05	32.22	2.13	32.46	1.99E-03		1.41E-01
Fire Pump Engine	028	030	0.17	0.17	0.15	2.33	0.19	0.50			0.00
Genset (Emergency)	031	033	0.11	0.11	0.10	1.56	0.12	0.34			0.00
Commercial Hexane 1	TK 001	020									0.00
Commercial Hexane 2	TK 002	020									0.00
Commercial Hexane 3	TK 003	020									0.00
Commercial Hexane 4	TK 004	020									0.00
First Distillate FO #2	TK 005						0.01				0.00
Second Distillate FO#2	TK 006						0.01				0.00
Methanol Storage Tank #1	TK 007						0.21			0.21	0.21
Methanol Storage Tank #2	TK 008						0.21			0.21	0.21
Sodium Methylate Tank	TK 009						0.34			0.21	0.34
Fugitive Emissions		FS 001					540.18			474.06	474.06
Onsite Vehicle Traffic		FS 002	13.03	2.54		0.79					0.00
Bean Pile		FS 003	4.94	1.23							0.00
Cooling Tower		FS 004	0.27	0.20							0.00
Bio-diesel Manufacturing Process		FS 005					6.41			6.41	6.41
Lab Hood		IA 001					0.33			0.16	0.33
		Totals	244.27	135.50	22.36	69.12	1085.25	65.76	3.98E-03	948.28	948.72

	PM (tpy)	PM₁₀ (tpy)	SO₂ (tpy)	NO_x (tpy)	VOC (tpy)	CO (tpy)	Pb (tpy)	Single HAP (tpy)	All HAPs (tpy)
Total Facility Limited Potential Emissions	244.27	135.50	22.36	69.12	1092.42	65.76	3.98E-03	955.45	955.89